

IN THE CLAIMS

Please amend the claims to read as follows:

Listing of Claims

1. (Currently Amended) An amplifier circuit comprising:
 - a constant-envelope signal generating section that generates first and second constant-envelope signals each having an initial phase;
 - a local oscillating section that generates a first and second local signals;
 - a frequency conversion section that performs frequency-conversion of the first constant-envelope signal by mixing the first local signal with the first constant-envelope signal, and performs frequency-conversion of the second constant-envelope signal by mixing the second local signal with the second constant-envelope signal and second constant-envelope signals using the first and second local signals respectively;
 - an amplifying section that amplifies the first and second constant-envelope signals after the frequency-conversion; and
 - a combining section that combines the first and second constant-envelope signals after the amplification; and
 - the amplifier circuit further comprising:
 - a local signal phase-shifting section that rotates phases of the first and second local signals before the frequency conversion, so that the first and second local signals after the rotation have a 180° phase difference, before the first and second local signals are mixed with the first and second constant-envelope signals, respectively; and

a constant-envelope signal phase-shifting section that rotates a phase of the first constant-envelope signal ~~before the frequency conversion~~, by the same amount as the rotation of the first local signal and in an opposite direction to the rotation of the first local signal, and rotates a phase of the second constant-envelope signal ~~before the frequency conversion~~, by the same amount as the rotation of the second local signal and in an opposite direction to the rotation of the second local signal, before the first and second local signals are mixed with the first and second constant-envelope signals, respectively, wherein

said frequency conversion section returns the phase of the frequency-converted first constant-envelope signal to the initial phase of the first constant-envelope signal by mixing the first local signal with the first constant envelope for frequency conversion of the first constant-envelope signal, and returns the phase of the frequency-converted second constant-envelope signal to the initial phase of the second constant-envelope signal by mixing the second local signal with the second constant-envelope signal for frequency conversion of the second constant-envelope signal.

2. (Original) The amplifier circuit according to claim 1, further comprising a local signal phase adjustment section that adjusts a phase of at least one of the generated first local signal and second local signal.

3. (Original) The amplifier circuit according to claim 2, further comprising: a detecting section that detects a level of leakage of the local signals in an output signal obtained as a result of combining by the combining section; and a phase control section that controls the local signal phase adjustment section in such a manner that the detected level is minimized.

4. (Original) The amplifier circuit according to claim 1, further comprising a local signal amplitude adjustment section that adjusts an amplitude of at least one of the generated first local signal and second local signal.

5. (Original) The amplifier circuit according to claim 4, further comprising: a detecting section that detects a level of leakage of the local signals in an output signal obtained as a result of combining by the combining section; and an amplitude control section that controls the local signal amplitude adjustment section in such a manner that the detected level is minimized.

6. (Original) The amplifier circuit according to claim 1, further comprising a constant-envelope signal phase adjustment section that adjusts a phase of at least one of the frequency-modulated first constant-envelope signal and second constant-envelope signal.

7. (Original) A wireless base station apparatus comprising the amplifier circuit according to claim 1.

8. (Original) A wireless terminal apparatus comprising the amplifier circuit according to claim 1.

9. (Currently Amended) An amplifier circuit comprising:

a constant-envelope signal generating section that generates first and second constant-envelope signals each having an initial phase;

a local oscillating section that generates first and second local signals;

a frequency conversion section that performs frequency-conversion of the first constant-envelope signal by mixing the first local signal with the first constant-envelope signal, and performs frequency-conversion of the second constant-envelope signal by mixing the second local signal with the second constant-envelope signal and second constant-envelope signals using the first and second local signals respectively;

an amplifying section that amplifies the first and second constant-envelope signals after the frequency-conversion; and

a combining section that combines the first and second constant-envelope signals after the amplification;

~~the amplifier circuit further comprising:~~

a local signal phase-shifting section that rotates a phase of the first local signal without rotating a phase of the second local signal before the frequency conversion, so that the first and second local signals after the rotation have a 180° phase difference, before the first and second local signals are mixed with the first and second constant-envelope signals, respectively; and

a constant-envelope phase-shifting section that rotates a phase of the first constant-envelope signal without rotating a phase of the second constant-envelope signal before the frequency conversion, by the same amount as the rotation of the first local signal and in an opposite direction to the rotation of the first local signal, before the first and second local signals are mixed with the first and second constant-envelope signals, respectively, wherein

said frequency conversion section returns the phase of the frequency-converted first constant-envelope signal to the initial phase of the first constant-envelope signal by mixing the first local signal with the first constant envelope signal for frequency conversion of the first constant-envelope signal.